EXHIBIT 8

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Inventor(s):	Dat D. Ngo		
Case:	Ngo 1 (Our File: LCNT/124986)		
Serial No.:	10/448,559	**Group Art Unit:**	2613
Filed:	05/30/2003	**Confirmation #:**	4779
Examiner:	Li, Shi K		
Title:	PROTECTION SWITCHING IN WDM RINGSUSING A SHARED RING SWITCH		

MAIL STOP AMENDMENT
COMMISSIONER FOR PATENTS
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SIR:

RESPONSE AMENDMENT

This is in response to the non-final Office Action mailed June 17, 2008. Please reconsider the above-identified patent application as follows.

In the event that an extension of time is required for this response to be considered timely, and a petition therefor does not otherwise accompany this response, any necessary extension of time is hereby petitioned for.

Applicant does not believe that any fees are due in connection with this response. In the event Applicant is incorrect, the Commissioner is authorized to charge any fees due, including extension of time and excess claim fees, to counsel's Deposit Account No. 20-0782/LCNT/**124986**.

LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A method, comprising:

(a) collecting a plurality of bit error rate (BER) values;

(b) storing said BER values;

(c) analyzing said BER values using a BER hysteresis algorithm to check for an indication of BER degradation, wherein said analyzing comprises:

comparing each of a plurality of recent ones of said collected BER values to a predetermined BER threshold level, wherein said recent ones of said collected BER values include a subset of said collected BER values;

determining, for each of said recent ones of said collected BER values, whether said recent BER value exceeds said predetermined BER threshold level;

in response to a determination that each of said recent ones of said collected BER values exceeds the predetermined BER threshold level, determining whether said collected BER values worsen over time;

in response to a determination that said collected BER values worsen over time, detecting an indication of BER degradation; and

(d) switching a transmission port in response to said indication of BER degradation.

2. (original) The method of claim 1, wherein said BER values are collected at a predetermined interval.

3. (currently amended) The method of claim 1, wherein ~~each of a plurality of recently~~ said collected BER values [[is]] are stored in an array.

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (previously presented) The method of claim 1, wherein step (c) comprises:

(c1) setting a flag to zero;

(c2) acquiring a recent BER value;

(c3) determining whether said recent BER value exceeds said predetermined BER threshold level;

(c4) incrementing said flag, storing said recent BER value in an array, and comparing said flag with said BER degradation threshold upon a positive determination in step (c3);

(c5) setting said flag to zero and storing said BER value in said array upon a negative determination is step (c3);

(c6) repeating steps (c2)-(c5) until said flag is greater than a BER degradation threshold;

(c7) determining whether a predetermined number of BER values in said array worsen over time; and

(c8) issuing a trigger signal that switching is required upon a positive determination in step (c7).

8. (previously presented) The method of claim 7, wherein step (c) further comprises:

(c9) determining whether said predetermined number of BER values fluctuate randomly upon a negative determination in step (c7);

(c10) classifying said predetermined number of BER values as a transient disturbance, setting said flag to zero, and proceeding to step (c2) upon a positive determination in step (c9); and

(c11) determining whether said predetermined number of BER values are similar upon a negative determination in step (c9).

9. (previously presented) The method of claim 8, wherein step (c) further comprises:

(c12) classifying said predetermined number of BER values as a transient disturbance, setting said flag to zero, and proceeding to step (c2) upon a negative determination in step (c11); and

(c13) issuing a trigger signal that switching is required upon a positive determination in step (c11).

10. (previously presented) The method of claim 1, wherein said method is adapted for use in monitoring a transmission port associated with a first optical channel in an optical transmission system, said method further comprising:

transmitting an in-band signal via said first optical channel towards a multiplexer;

transmitting an out-of-band signal via a second optical channel towards said multiplexer; and

transmitting said in-band signal via a third optical channel towards said multiplexer in response to an indication of BER degradation of said first optical channel.

11. (previously presented) The method of claim 1, wherein said method is adapted for use in monitoring transmission ports associated with each of a first optical channel and a second optical channel in an optical transmission system, said method further comprising:

transmitting an in-band signal via said first optical channel towards a multiplexer;

transmitting an out-out-band signal via a second optical channel towards said multiplexer; and

transmitting said in-band signal via a third optical channel towards a second multiplexer in response to an indication of BER degradation of said first and second optical channels.

12. (previously presented) A method for initiating a switch from a service channel to a protection channel in a ring network, comprising:

detecting a signal failure; and

transmitting a switching request periodically until at least one of the expiration of a predetermined time and the receipt of an acknowledgement signal, wherein said predetermined time is a maximum switching time for the ring network calculated using a number of nodes in the ring network and an optical fiber distance of the ring network.

13. (cancelled)

14. (original) The method of claim 12, further comprising:

issuing a signal to switch to a protection channel in response to said acknowledgement signal.

15. (previously presented) The method of claim 12, wherein said detection of said signal failure comprises:

(a) collecting a plurality of bit error rate (BER) values;

(b) storing said BER values;

(c) analyzing said BER values using a BER hysteresis algorithm to check for an indication of BER degradation; and

(d) detecting an indication of BER degradation.

16. (previously presented) The method of claim 15, wherein step (c) comprises:

(c1) setting a flag to zero;

(c2) acquiring a recent BER value;

(c3) determining whether said recent BER value exceeds a predetermined BER threshold level;

(c4) incrementing said flag, storing said recent BER value in an array, and comparing said flag with a predetermined maximum flag value upon a positive determination in step (c3); and

(c5) setting said flag to zero and storing said recent BER value in said array upon a negative determination is step (c3).

17. (previously presented) The method of claim 16, wherein step (c) further comprises:

(c6) repeating steps (c2)-(c5) until said flag is greater than said predetermined maximum flag value;

(c7) determining whether a predetermined number of recently acquired BER values worsen over time; and

(c8) issuing a trigger signal that switching is required upon a positive determination step (c7).

18. (previously presented) The method of claim 17, wherein step (c) further comprises:

(c9) determining whether said predetermined number of recently acquired BER values fluctuate randomly upon a negative determination in step (c7);

(c10) classifying said recently acquired BER values as a transient disturbance, setting said flag to zero, and proceeding to step (c2) upon a positive determination in step (c9); and

(c11) determining whether said predetermined number of recently acquired BER values is similar upon a negative determination in step (c9).

19. (previously presented) The method of claim 18, wherein step (c) further comprises:

(c12) classifying said recently acquired BER values as a transient disturbance, setting said flag to zero, and proceeding to step (c2) upon a negative determination in step (c11); and

(c13) issuing a trigger signal that switching is required upon a positive determination in step (c11).

20. (currently amended) A method, comprising:

transmitting an in-band signal via ~~said~~ a first optical channel towards a multiplexer;

transmitting an out-of-band signal via a second optical channel towards said multiplexer;

in response to detection of a condition on said first optical channel without detection of a condition on said second optical channel, switching the in-band signal to a third optical channel using a span switch operation; or

in response to detection of a condition on said first optical channel and detection of a condition on said second optical, switching the in-band signal to a third optical channel using a ring switch operation.

21. (currently amended) The method of claim 20, ~~further comprising~~ wherein:

~~in response to~~ when said span switch operation is performed, ~~transmitting~~ said in-band signal is transmitted via said third optical channel ~~toward said first~~ using said multiplexer; or

~~in response to~~ when said ring switch operation is performed, ~~transmitting~~ said in-band signal is transmitted via said third optical channel ~~toward a second~~ using a different multiplexer.

22. (currently amended) An optical switch comprising a processor in a memory, said optical switch adapted to perform the steps of:

(a) collecting a plurality of bit error rate (BER) values;

(b) storing said BER values;

(c) analyzing said BER values using a BER hysteresis algorithm to check for an indication of BER degradation, wherein said analyzing comprises:

comparing each of a plurality of recent ones of said collected BER values to a predetermined BER threshold level, wherein said recent ones of said collected BER values include a subset of said collected BER values;

determining, for each of said recent ones of said collected BER values, whether said recent BER value exceeds said predetermined BER threshold level;

in response to a determination that each of said recent ones of said collected BER values exceeds the predetermined BER threshold level, determining whether said collected BER values worsen over time;

in response to a determination that said collected BER values worsen over time, detecting an indication of BER degradation; and

(d) switching a transmission port in response to said indication of BER degradation.

23. (cancelled)

24. (previously presented) The apparatus of claim 22, wherein said step (c) comprises:

(c1) setting a flag to zero;

(c2) acquiring a recent BER value;

(c3) determining whether said recent BER value exceeds said predetermined BER threshold level;

(c4) incrementing said flag, storing said recent BER value in an array, and comparing said flag with said BER degradation threshold upon a positive determination in step (c3);

(c5) setting said flag to zero and storing said BER value in said array upon a negative determination is step (c3);

(c6) repeating steps (c2)-(c5) until said flag is greater than said predetermined maximum flag value;

(c7) determining whether a predetermined number of recently acquired BER values worsen over time; and

(c8) issuing a trigger signal that switching is required upon a positive determination step (c7).

25. (previously presented) The apparatus of claim 24, wherein said step (c) further comprises:

(c9) determining whether said predetermined number of recently acquired BER values fluctuate randomly upon a negative determination in step (c7);

(c10) classifying said recently acquired BER values as a transient disturbance, setting said flag to zero, and proceeding to step (c2) upon a positive determination in step (c9); and

(c11) determining whether said predetermined number of recently acquired BER values is similar upon a negative determination in step (c9).

26. (previously presented) The apparatus of claim 25, wherein said step (c) further comprises:

(c12) classifying said recently acquired BER values as a transient disturbance, setting said flag to zero, and proceeding to step (c2) upon a negative determination in step (c11); and

(c13) issuing a trigger signal that switching is required upon a positive determination in step (c11).

27. (previously presented) The apparatus of claim 26, further adapted to transmit a switching request periodically until the expiration of a predetermined time or until receipt of an acknowledgement signal.

28. (original) The apparatus of claim 27, further adapted to issue a signal to switch to a protection channel in response to said acknowledgement signal.

Remarks

Claims 1-3, 7-12, 14-22 and 24-28 are pending in the application.

Claim 20 is objected to because of an informality.

Claims 1-2 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge et al. (U.S. Patent 6,775,237 B2, hereinafter "Vieregge").

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge in view of Gillett (U.S. Patent 5,627,837, hereinafter "Gillett").

Claims 7-9 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge and Gillett as applied to claim 3 above, and further in view of Soltysiak et al. (U.S. Patent 6,775,237 B2, hereinafter "Soltysiak").

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge in view of Li (U.S. Patent Application Pub. 2002/0018616 A1, hereinafter "Li") and Ryhorchuk et al. (U.S. Patent 7,113,698 B1, hereinafter "Ryhorchuk").

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer et al. (U.S. Patent 6,917,759, hereinafter "de Boer") in view of Hartmann et al. (U.S. Patent 6,851,062 B1, hereinafter "Hartmann").

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer and Hartmann as applied to claims 12 and 14 above, and further in view of Vieregge.

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer, Hartmann and Vieregge as applied to claim 15 above, and further in view of Soltysiak.

Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Ryhorchuk

Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge, Gillett and Soltysiak as applied to claims 7-9 and 24-26 above, and further in view of de Boer.

Each of the various rejections and objections are overcome by amendments that are made to the specification, drawing, and/or claims, as well as, or in the alternative, by various arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewriting to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

Claim Objection

Claim 20 is objected to due to an informality. Specifically, the Examiner has objected to the claim due to a typographical error.

The informality has been corrected as suggested by the Examiner.

As such, Applicant respectfully requests that the objection be withdrawn.

Rejection Under 35 U.S.C. 103

Claims 1-2 and 22

Claims 1-2 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge. The rejection is traversed.

Vieregge discloses nodes which perform protection switching on the basis of raw signal quality information, such as raw bit error rate (BER) information in a manner which causes protection switching to occur before an actual failure has occurred.

Vieregge, however, fails to teach or suggest all the claim limitations of Applicant's claim 1. Namely, Vieregge fails to teach or suggest at least the limitations of "comparing each of a plurality of recent ones of said collected BER values to a predetermined BER threshold level; determining, for each of said recent ones of said collected BER values, whether said recent BER value exceeds said predetermined BER threshold level; in response to a determination that each of said recent ones of said collected BER values exceeds the predetermined BER threshold level, determining whether said collected BER values worsen over time; in response to a determination that said collected BER values worsen over time, detecting an indication of BER degradation," as claimed in Applicant's claim 1.

Rather, Vieregge merely discloses that a failure predictor used to determine whether or not to perform a protection switching operation may require that the latest BER value exceed a threshold and that a rate of increase between two consecutive measurements must exceed some value. (Vieregge, Col. 5, Lines 48 – 58).

First, the Applicant notes that Vieregge merely discloses determining that a rate of increase of BER measurements must exceed some value. Vieregge fails to teach or suggest determining whether BER values worsen over time, as claimed in Applicant's claim 1.

Second, even assuming arguendo that the cited portion of Vieregge may be interpreted as disclosing a step of determining whether BER values worsen over time (which Applicant maintains it cannot), Vieregge would still fail to teach or suggest that the step of determining whether BER values worsen over time is performed in response to a determination that each of recent ones of collected BER values exceed a

predetermined BER threshold level, as claimed in Applicant's claim 1. Rather, Vieregge merely states that a combination of the two indicators (namely, the latest BER value exceeding a threshold and a rate of increase between two consecutive measurements exceeding some value) is used to predict a failure, without any teaching or suggestion of any other relationship between these indicators. Thus, Vieregge fails to teach or suggest that determining whether BER values worsen over time is performed in response to a determination that each of recent ones of collected BER values exceed a predetermined BER threshold level, as claimed in Applicant's claim 1.

Furthermore, the Applicant notes that Vieregge fails to teach or suggest the specific arrangement of Applicant's claim 1. Applicant's claim 1 includes limitations of collecting BER values, comparing each of a plurality of recent ones of the collected BER values to a predetermined BER threshold level, determining for each of the recent ones of the collected BER values whether the recent BER value exceeds the predetermined BER threshold level, and in response to a determination that each of the recent ones of the collected BER values exceeds the predetermined BER threshold level, determining whether the collected BER values worsen over time. As claimed in Applicant's claim 1, the recent ones of the collected BER values compared to the predetermined BER threshold level include a subset of the collected BER values which are evaluated to determine whether BER values worsen over time. By contrast, Vieregge merely discloses determining if the latest BER value exceeds a threshold and determining that a rate of increase between two consecutive measurements must exceed some value. Vieregge fails to teach or suggest determining whether a set of collected BER values worsen over time, in response to a determination that BER values in a subset of the collected BER values satisfy a threshold. Thus, Vieregge fails to teach or suggest Applicant's claim 1.

As such, independent claim 1 is allowable over Vieregge under 35 U.S.C. 103. Similarly, independent claim 22 recites relevant limitations similar to those recited in independent claim 1 and, as such, for at least the same reasons discussed above with respect to independent claim 1, independent claim 22 is allowable over Vieregge under 35 U.S.C. 103. Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from

which they ultimately depend, each such dependent claim is also allowable over Vieregge under 35 U.S.C. 103(a).

The Examiner is respectfully requested to withdraw the rejection.

Claim 3, 7-11 and 24-26

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge in view of Gillett. Claims 7-9 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge and Gillett as applied to claim 3 above, and further in view of Soltysiak. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge in view of Li and Ryhorchuk. The rejections are traversed.

These grounds of rejection apply only to dependent claims and are predicated on the validity of the rejection under 35 U.S.C. 103(a) given Vieregge. Since the rejection under 35 U.S.C. 103(a) given Vieregge has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from Vieregge to render the independent claims obvious, this ground of rejection cannot be maintained.

As such, claim 3 is allowable under 35 U.S.C. 103(a) over Vieregge in view of Gillett; claims 7-9 and 24-26 are allowable under 35 U.S.C. 103(a) over Vieregge and Gillette as applied to claim 3 above, and further in view of Soltysiak; and claims 10-11 are allowable under 35 U.S.C. 103(a) over Vieregge in view of Li and Ryhorchuk.

The Examiner is respectfully requested to withdraw the rejection.

Claims 12 and 14

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer in view of Hartmann. The rejection is traversed.

de Boer and Hartmann alone or in combination fail to teach or suggest all the limitations of independent claim 12.

In general, de Boer discloses a shared mesh protection scheme which defines an associated protection path when a working connection is established. During definition of the protection path, protection path information is sent to switch cards of network elements which make up the protection path. As disclosed in de Boer, upon detection of

a failure, the network elements inform the routing service network element of the failure in the working path. The network elements inform the routing service network element using an overhead byte message.

de Boer, however, fails to teach Applicant's claim 12, as a whole. Namely, de Boer fails to teach or suggest transmitting a switching request periodically until at least one of the expiration of a predetermined time and the receipt of an acknowledgement signal, where the predetermined time is a maximum switching time for a ring network calculated using a number of nodes in the ring network and an optical fiber distance of the ring network, as claimed in Applicant's claim 12.

Rather, although the system of de Boer uses a timeout value, de Boer is devoid of any teaching or suggestion of how the timeout value is determined. de Boer merely discloses that, if a timeout condition occurs, the source network element sends an alarm indicating that the defined protection path cannot be established. As such, de Boer fails to teach or suggest the limitation of "transmitting a switching request periodically until at least one of the expiration of a predetermined time and the receipt of an acknowledgement signal, wherein said predetermined time is a maximum switching time for the ring network calculated using a number of nodes in the ring network and an optical fiber distance of the ring network," as claimed in Applicant's claim 12. Thus, de Boer fails to teach or suggest Applicant's claim 12, as a whole.

Furthermore, Hartmann fails to bridge the substantial gap between de Boer and Applicant's claim 12.

Hartmann discloses a system for monitoring and controlling the total number of SSL port resources that are allowed to be tied up by a malicious or inept client making multiple requests from a single IP address.

Hartmann, however, alone or in combination with de Boer, fails to teach or suggest at least the limitation of "where the predetermined time is a maximum switching time for a ring network calculated using a number of nodes in the ring network and an optical fiber distance of the ring network," as claimed in Applicant's claim 12.

Rather, Hartmann merely discloses a timeout calculation for computing an average round trip time (RTT) that uses an adaptive sampling algorithm to weight the RTT. As disclosed in Hartmann, the timeout calculation is timeout associated with an

SSL handshake. Hartmann is devoid of any teaching or suggestion of a maximum switching time for a ring network, much less that a maximum switching time for a ring network is calculated using a number of nodes in the ring network and an optical fiber distance of the ring network.

Thus, Hartmann, alone or in combination with de Boer, fails to teach or suggest Applicant's claim 12, as a whole.

Furthermore, Applicant notes that the teachings of de Boer and Hartmann are completely different and, thus, one skilled in the art of mesh optical networks (as disclosed in de Boer) would not look to teachings associated with monitoring and controlling of SSL port resources (as disclosed in Hartmann). Moreover, Applicant further notes that the disparate teachings of de Boer and Hartmann cannot be operably combined.

As such, independent claim 12 is allowable over de Boer in view of Hartmann under 35 U.S.C. 103(a). Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over de Boer in view of Hartmann under 35 U.S.C. 103(a).

The Examiner is respectfully requested to withdraw the rejection.

Claims 15 and 16-19

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer and Hartmann as applied to claims 12 and 14 above, and further in view of Vieregge. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer, Hartmann and Vieregge as applied to claim 15 above, and further in view of Soltysiak. The rejections are traversed.

These grounds of rejection apply only to dependent claims and are predicated on the validity of the rejection under 35 U.S.C. 103(a) given de Boer and Hartmann. Since the rejection under 35 U.S.C. 103(a) given de Boer and Hartmann has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that the additional references supply that which is missing from de Boer and Hartmann to render the independent claims obvious, this ground of rejection cannot be maintained.

As such, claim 15 is allowable under 35 U.S.C. 103(a) over de Boer and Hartmann as applied to claims 12 and 14 above, and further in view of Vieregge; and claims 16-19 are allowable under 35 U.S.C. 103(a) over de Boer, Hartmann and Vieregge as applied to claim 15 above and further in view of Soltysiak.

The Examiner is respectfully requested to withdraw the rejections.

Claims 20-21

Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Ryhorchuk The rejection is traversed.

Li and Ryhorchuk, alone or in combination, fail to teach or suggest all the limitations of Applicant's claim 20. Namely, Li and Ryhorchuk, alone or in combination, fail to teach or suggest at least the limitations of "in response to detection of a condition on said first optical channel without detection of a condition on said second optical channel, switching the in-band signal to a third optical channel using a span switch operation" and "in response to detection of a condition on said first optical channel and detection of a condition on said second optical, switching the in-band signal to a third optical channel using a ring switch operation," as claimed in Applicant's claim 20.

Li discloses an optical channel shared protection ring. More specifically, Li discloses a four-fiber or two-fiber, two-wavelength optical channel switched protection ring architecture. (Li, Abstract).

Li, however, fails to teach or suggest at least the limitations of "in response to detection of a condition on said first optical channel without detection of a condition on said second optical channel, switching the in-band signal to a third optical channel using a span switch operation" and "in response to detection of a condition on said first optical channel and detection of a condition on said second optical, switching the in-band signal to a third optical channel using a ring switch operation," as claimed in Applicant's claim 20.

Rather, although Li discloses use of span switch operations and ring switch operations, as noted by the Examiner Li fails to teach or suggest use of an out-of-band signal and, thus, fails to teach or suggest switching an in-band signal to a third optical channel in response to detection of a condition on a first optical channel without detection

of a condition on the second optical channel (which conveys the out-of-band signal) or switching the in-band signal to a third optical channel in response to detection of a condition on the first optical channel and detection of a condition on the second optical channel (which conveys the out-of-band signal).

Furthermore, Ryhorchuk fails to bridge the substantial gap between Li and Applicant's claim 20.

Ryhorchuk discloses a system for detecting faults in an optical network having switching nodes and amplifier nodes, where each amplifier node is capable of detecting a fault condition on an incoming line. (Ryhorchuk, Abstract).

Ryhorchuk, however, alone or in combination with Li, fails to teach or suggest at least the limitation of "in response to detection of a condition on said first optical channel without detection of a condition on said second optical channel, switching the in-band signal to a third optical channel using a span switch operation" and "in response to detection of a condition on said first optical channel and detection of a condition on said second optical, switching the in-band signal to a third optical channel using a ring switch operation," as claimed in Applicant's claim 20.

Rather, although Ryhorchuk discloses an optical supervisory channel, Ryhorchuk merely states that the each node receives status information from upstream nodes via the optical supervisory channel, and that the status information includes information that at least one upstream controller has measured or otherwise collected regarding the status of the network channels. (Ryhorchuk, Col. 8, Lines 46 – 50).

Ryhorchuk is devoid of any teaching or suggestion that the optical supervisory channel is used in the same manner as the out-of-band signal of the second optical channel of Applicant's claim 20. More specifically, Ryhorchuk does not disclose use of the optical supervisory channel in combination with information about the condition of another optical channel transporting a client signal in order to determine whether a span switch operation or ring switch operation is performed and, thus, Ryhorchuk fails to teach or suggest switching an in-band signal to a third optical channel using a span switch operation in response to detection of a condition on the first optical channel without detection of a condition on the second optical channel or switching the in-band signal to a third optical channel using a ring switch operation in response to detection of a condition

on the first optical channel and detection of a condition on the second optical, as claimed in Applicant's claim 20.

Applicant notes that a system according to the combination of Li and Ryhorchuk would merely disclose a system in which protection switching may be performed using span or ring switch operations, and in which an optical supervisory channel may be used to exchange status information between nodes. A system according to the combination of Li and Ryhorchuk fails to teach or suggest use of the optical supervisory channel in the same manner as the out-of-band signal of the second optical channel of Applicant's claim 20, and, thus, a system according to the combination of Li and Ryhorchuk fails to teach or suggest Applicant's claim 20, as a whole.

As such, independent claim 20 is allowable over Li in view of Ryhorchuk under 35 U.S.C. 103. Furthermore, since all of the dependent claims that depend from the independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over Li in view of Ryhorchuk under 35 U.S.C. 103(a).

The Examiner is respectfully requested to withdraw the rejection.

Claims 27-28

Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vieregge, Gillett and Soltysiak as applied to claims 7-9 and 24-26 above, and further in view of de Boer. The rejection is traversed.

This ground of rejection apply only to dependent claims and is predicated on the validity of the rejection under 35 U.S.C. 103(a) given Vieregge, Gillett and Soltysiak as applied to claims 7-9 and 24-26 above, and further in view of de Boer. Since the rejection under 35 U.S.C. 103(a) given Vieregge, Gillett and Soltysiak has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that de Boer supplies that which is missing from Vieregge, Gillett and Soltysiak to render the independent claims obvious, this ground of rejection cannot be maintained.

Thus, claims 27-28 are allowable under 35 U.S.C. 103(a) over Vieregge, Gillett and Soltysiak as applied to claims 7-9 and 24-26 above, and further in view of de Boer.

The Examiner is respectfully requested to withdraw the rejections.

Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732) 530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully submitted,

Dated: 9/8/08

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